

<b>CHEMICALS, THE ENVIRONMENT, AND YOU</b>		
<b>West Virginia Science Content Standards and Objectives – Grades 6, 7, 8</b>		
<b>Lesson</b>	<b>Standard</b>	<b>Objective</b>
<b>1, 2, 3</b>	<b>SC.6.1.1 SC.7.1.1 SC.8.1.1</b>	Explain that scientists formulate and test their explanations of nature using observation and experiments.
<b>5</b>	<b>SC.6.1.2 SC.7.1.2 SC.8.1.2</b>	Recognize that scientific knowledge is subject to modification as new scientific information challenges current theories.
<b>All lessons</b>	<b>SC.6.2.1 SC.7.2.1 SC.8.2.1</b>	Cooperate and collaborate to ask questions, find answers, solve problems, and conduct investigations to further an appreciation of scientific discovery.
<b>1, 2, 3, 4</b>	<b>SC.6.2.2 SC.7.2.2 SC.8.2.2</b>	Formulate conclusions through close observations, logical reasoning, objectivity, perseverance and integrity in data collection.
<b>All lessons</b>	<b>SC.6.2.3 SC.7.2.3 SC.8.2.3</b>	Apply skepticism, careful methods, logical reasoning and creativity in investigating the observable universe.
<b>1, 2, 3, 4, 5</b>	<b>SC.6.2.4 SC.7.2.4 SC.8.2.4</b>	Use a variety of materials and scientific instruments to conduct explorations, investigations and experiments of the natural world (e.g., barometer, anemometer, microscope, computer).
<b>2, 3</b>	<b>SC.6.2.5 SC.7.2.5 SC.8.2.5</b>	Demonstrate safe techniques for handling, manipulating and caring for science materials, equipment, natural specimens and living organisms.
<b>2, 3, 4, 5</b>	<b>SC.6.2.6 SC.7.2.6 SC.8.2.6</b>	Utilize experimentation to demonstrate scientific processes and thinking skills (e.g., formulating questions, predicting, forming hypotheses, quantifying, identifying dependent and independent variables).
<b>2, 3, 4</b>	<b>SC.6.2.7 SC.7.2.7 SC.8.2.7</b>	Construct and use charts, graphs and tables to organize, display, interpret, analyze and explain data.

WEST VIRGINIA ALIGNMENT FOR NIH SUPPLEMENT CHEMICALS, THE ENVIRONMENT, AND YOU

<b>All lessons</b>	<b>SC.6.2.8 SC.7.2.8 SC.8.2.8</b>	Use inferential reasoning to make logical conclusions from collected data.
<b>3, 4, 5, 6</b>	<b>SC.6.2.9 SC.7.2.9 SC.8.2.9</b>	Use appropriate technology solutions to gather data; graph data; interpret data; and analyze information.
<b>2, 3, 4</b>	<b>SC.6.3.2 SC.7.3.2 SC.8.3.2</b>	Construct a variety of useful models of an object, event, or process.
<b>All lessons</b>	<b>SC.6.3.3 SC.7.3.3 SC.8.3.3</b>	Compare and contrast changes that occur in an object or a system to its original state.
<b>All lessons</b>	<b>SC.7.4.12</b>	Evaluate the consequences of the introduction of chemicals into the ecosystem (e.g., environmental consequences, human health risks, mutations).
<b>1</b>	<b>SC.6.4.14</b>	Identify the symbols of elements.
<b>3, 4, 5, 6</b>	<b>SC.7.5.1</b>	Make and compare different proposed solutions to an identified problem in light of specified criteria.
<b>4, 5, 6</b>	<b>SC.6.6.1 SC.7.6.1 SC.8.6.1</b>	Use scientific reasoning and the knowledge of science and technology to make informed personal decisions at the local and global levels.
<b>1, 5</b>	<b>SC.6.6.2 SC.7.6.2 SC.8.6.2</b>	Evaluate and critically analyze mass media reports of scientific developments and events.

**West Virginia Math Content Standards and Objectives – Grades 6, 7, 8**

<b>Lesson</b>	<b>Standard</b>	<b>Objective</b>
<b>2, 4</b>	<b>MA.6.1.6</b>	Solve problems in context involving addition, subtraction, multiplication, and division of whole numbers, fractions, mixed numbers and decimals.
<b>2, 4</b>	<b>MA.6.1.8</b>	Convert between fractions, mixed numbers, decimals and percents.
<b>2, 4</b>	<b>MA.6.1.9</b>	Find the percent of a number.
<b>2, 3, 4</b>	<b>MA.6.2.9</b>	Use variables to represent and solve real world problems appropriate for the 6 <sup>th</sup> grade using multiple

WEST VIRGINIA ALIGNMENT FOR NIH SUPPLEMENT CHEMICALS, THE ENVIRONMENT, AND YOU

		strategies.
2, 3, 4	MA.6.5.1	Collect, organize, display, and read data using appropriate graphs and tables.
2, 3, 4	MA.7.1.5	Perform operations with integers (e.g., addition, subtraction, multiplication, division).
2, 4	MA.7.1.7	Solve application problems with whole numbers, decimals, fractions and percents.
2, 4	MA.7.2.6	Use ratios and proportions to represent and solve application problems.
2, 3, 4	MA.7.2.13	Represent and solve real world problems appropriate for 7 <sup>th</sup> grade using multiple strategies.
2, 4	MA.7.4.4	Convert units of measurement within and between customary and metric systems.
2, 3, 4	MA.7.5.3	Collect, organize, graphically represent, and interpret data displays including: frequency distributions, line plots, scatter plots, box and whiskers, and multiple-line graphs.
2, 4	MA.8.1.6	Solve application problems with whole numbers, decimals, fractions, percents and integers including, but not limited to, rates, tips, discounts, sales tax and interest.
2, 4	MA.8.2.3	Use ratio and proportion to create and solve equations.
2, 3, 4	MA.8.2.10	Represent and solve real world problems appropriate for 8 <sup>th</sup> grade using multiple strategies.
3, 4	MA.8.5.3	Create and extrapolate information from multiple-bar graphs, box and whisker plots, and other data displays using appropriate technology.
4	MA.8.5.4	Analyze problem situations, games of chance, and consumer applications using statistical samplings to determine probability and make predictions.
4	MA.8.5.5	Draw inferences and construct convincing arguments, including misuses of statistical or numeric information, based on data analysis.

**West Virginia Reading and Language Arts Content Standards and Objectives – Grades 6, 7, 8**

Lesson	Standard	Objective
All lessons	RLA.8.1.3	Use comprehension strategies (e.g., make judgments; hypothesize; critique; analyze).
1, 4, 5, 6	RLA.6.1.4	Analyze text to determine transitional words/language.
All lessons	RLA.6.1.5 RLA.7.1.4	Use comprehension strategies (e.g., generalize; evaluate; infer; paraphrase, draw conclusions, interpret meaning).
All lessons	RLA.6.1.10 RLA.8.1.10	Use resource materials (e.g., dictionary; glossary; thesaurus) to determine the meaning of unknown words or multiple meaning words.

WEST VIRGINIA ALIGNMENT FOR NIH SUPPLEMENT CHEMICALS, THE ENVIRONMENT, AND YOU

All lessons	RLA.6.1.11	Use connotation and denotation to understand meaning.
All lessons	RLA.6.1.12 RLA.7.1.13 RLA.8.1.11	Use root words, prefixes and suffixes to spell words, change word meanings and generate new words appropriate to grade level.
3, 4, 5	RLA.6.2.2 RLA.7.2.1 RLA.8.2.2	From a prompt, use the writing process to develop a composition that contains specific, relevant details and transitions.
3, 4, 5	RLA.6.2.3	Use writing strategies to address specific writing purposes (e.g., creative; journalistic; essay; narrative; informative; persuasive) and address various audiences (e.g., peers; teachers; employers).
3, 4, 5	RLA.7.2.3	Use the writing process to compose various types of writing (e.g., creative; informative; expository; persuasive; articles; essays; journals; letters; poetry; research/reports).
3, 4	RLA.6.2.19	Use traditional organizers to create, read, interpret and organize information in the form of tables, graphs, diagrams and charts.
All lessons	RLA.6.3.1 RLA.7.3.1 RLA.8.3.1	Recognize and exhibit oral communication skills (e.g., volume; rate; audience etiquette).
1, 4, 5, 6	RLA.8.3.3	Think critically about oral/visual information presented; relate personal experiences and apply the information to global situations.
All lessons	RLA.6.3.3 RLA.7.3.4 RLA.8.3.4	Listen in order to comprehend topic and purpose (e.g., of a guest speaker; informational video; televised interview; radio news program).
All lessons	RLA.6.3.4	Reach consensus in group discussions or settings.
All lessons	RLA.7.3.5 RLA.8.3.5	Play a variety of roles in group discussions, including active listener and discussion leader and/or facilitator.
<b>West Virginia Health Content Standards and Objectives – Grades 6, 7, 8</b>		
<b>Lesson</b>	<b>Standard</b>	<b>Objective</b>
4, 5, 6	HE.7.2.2	Identify situations that require professional health services and community resources that can provide those services.
3, 4, 5, 6	HE.8.7.4	Explain the need for legislation to protect and promote personal safety and health.